

WE CLAIM:

1. A method for managing a data connection comprising the steps of:

generating a first message;

5 encoding the first message into a first datagram, the first datagram including meta-data for use by a packet switched link;

transporting the datagram over a packet switched link;

10 receiving the datagram from the packet switched link in an intermediate data transport mechanism coupled to the link;

storing the meta-data in the intermediate data transport mechanism;

15 re-encoding the first message into a second datagram, the second datagram including meta-data for use by a circuit switched link; and

transporting the second datagram over a circuit switched link.

20 2. The method of claim 1 further comprising the steps of:

receiving the second datagram from the circuit switched link;

25 generating a second message in response to the second datagram;

encoding the second message into a third datagram including meta-data for use by the circuit switched link;

30 transporting the third datagram over the circuit switched link to the intermediate data transport mechanism; and

re-encoding the second message into a fourth datagram, the fourth datagram including meta-data copied from the stored meta-data for use by the packet switched link.

3. The method of claim 1 wherein the first message  
5 includes an exchange identification filed holding a value that uniquely identifies a logical exchange to which the message belongs.

4. The method of claim 3 further comprising:  
after receiving the first datagram from the packet  
10 switched link in the intermediate data transport mechanism, binding the exchange identification value to a particular circuit switched link for the duration of the logical exchange.

5. A bridge circuit for a communication link  
15 comprising:  
a packet switched side supporting a full duplex packet switched link;  
a circuit switched side supporting a number of full duplex circuit switched links;  
20 a binding mechanism within the bridge circuit having a storage space for storing a logical binding description binding packet switched frames to a particular one of the circuit switched links.

6. The bridge circuit of claim 5 wherein the  
25 bridge circuit identifies a logical exchange indicated in packet-switched frames received on the packet switched link and maintains the logical binding throughout the duration of the logical exchange.

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7. The bridge circuit of claim 5 wherein the binding mechanism further comprises:

a storage structure holding selected header information from received packet switched frames;

5 a frame generator for reformatting received circuit switched frames into packet switched frames using the stored header information.

8. A method for operating a communication link comprising the steps of:

10 providing a bridge unit supporting a high bandwidth connection and a plurality of low bandwidth connections;

verifying operability of the low bandwidth connections;

determining an exchange credit value based on the  
15 number of operable low bandwidth connections;

issuing a message including the credit value on the high bandwidth connection;

requiring any device coupled to the high bandwidth connection to have at least one exchange credit before  
20 communications will be accepted by the bridge unit on the high bandwidth connection from that device.

9. The method of claim 8 wherein the validation is performed during initialization of the bridge circuit.

10. The method of claim 8 wherein the validation is  
25 performed dynamically at runtime.

11. The method of claim 8 further comprising:

receiving a message in the bridge unit from a device coupled to the high bandwidth connection, the message having an exchange credit and an exchange identifier;

30 opening a logical exchange by binding the exchange identifier to a selected one of the low bandwidth connections;

routing subsequent messages received by the bridge unit that have the same exchange identifier to the low bandwidth connection that is bound to that exchange identifier.

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